

June 2017

Manufacturing Technology Office
Office of the Secretary of Defense

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UPCOMING EVENTS

July 24-26, 2017 – Mforesight National Summit & Leadership Council Meeting (Washington DC)

August 5-6, 2017 – FabLab Innovation Awards and Science Fair (Santa Monica, CA)

December 4-7, 2017 – Defense Manufacturing Conference (Tampa, FL)



DoD Manufacturing USA Institutes

Monthly Highlights

CREATING AN ADDITIVE MANUFACTURING WORKFORCE WITH MILITARY VETERANS

Through a Google.org Workforce Development Grant, America Makes, and 3D Veterans partner with GE CATA and Robert Morris University to train U.S. Veterans in the use of industrial additive manufacturing in Pittsburgh, PA.

America Makes, the National Additive Manufacturing USA institute in partnership with 3D Veterans, has received a Google.org grant to expand the Additive Manufacturing Bootcamp for veterans created last fall to teach U.S. military veterans 3D printing, CAD drawing, 3D scanning, and traditional manufacturing. These skills will be useful as veterans return to an increasingly digital workforce in the high demand advanced manufacturing industry.

This summer in Pittsburgh, PA, military veterans locally and nationally will begin a four-week Additive Manufacturing Bootcamp developed by 3D Veterans, America Makes, GE CATA, and Robert Morris University. Through this four-week training program, the military veteran students will learn how to use design tools and metal 3D printers to enter the additive manufacturing workforce for some of the largest organizations in the world. Veterans who attend will receive a \$500 stipend at the completion of the program.

The mission of 3D Veterans is to train and mentor veterans in 3D Printing technologies to lead innovation and growth in this revolutionary industry. According to Michael Moncada, Co-Founder of 3D Veterans, "This bootcamp will allow our nations' heroes



the opportunity to learn additive manufacturing skillsets and tools from the leaders in this exciting industry, and will surely give our veterans an advantage at great career opportunities in Advanced Manufacturing. We are excited to work with America Makes, GE CATA, Robert Morris, and all the partners that assisted us in developing this program."

A highlight of the four-week bootcamp will be spending one-week at General Electric's state-of-the-art Center for Additive Technology Advancement (CATA) facility. The hands-on exercises and projects will be led by Kirk Rogers, Technology Leader, GE CATA. "We are excited to work with all our partners to give U.S. military veterans valuable training in this growing area of advanced manufacturing."

"The power in this program lies in the collaboration between industry, academia and training partners," said Leanne Gluck, the Deputy Director for Workforce and Education at America Makes. "Because of these strong relationships, the 3D Veterans program delivers a hands-on experience with relevant technology, teaching skills linked directly to industry needs and demands. America Makes is excited for the second regional 3D Veterans Bootcamp, and looks forward to opportunities to expand and roll it out nationally."

For more information visit:
<http://www.3dveterans.com/>

DIRECTOR'S CORNER

For the first installment of the monthly highlights for the DoD Manufacturing USA institutes, I want to briefly introduce you to the DoD Manufacturing USA institutes:

Within the Manufacturing USA network, the Department of Defense has supported the establishment of 8 of the 14 total manufacturing innovation institutes. Each institute has a distinct technology focus designed to accelerate advanced manufacturing in the United States. As nodes in the Manufacturing USA network, the institutes complement each other's capabilities and benefit from shared approaches to matters such as intellectual property, education and workforce development, contract research, and performance metrics. The institutes provide shared facilities to start-ups and small manufacturers to help them scale up new technologies, accelerate technology transfer to the marketplace, and facilitate the adoption of innovation workforce skills. The Manufacturing USA network is designed to foster innovation and deliver new capabilities that can stimulate the manufacturing sector on a large scale.

The goal of this monthly newsletter is to highlight the success stories coming out of the eight DoD institutes and communicate their value to stakeholder's as Manufacturing USA progresses towards improving American manufacturing.

- Tracy Frost

Director, DoD Manufacturing USA Institutes
Acting Director, DoD ManTech

FOR MORE INFORMATION VISIT:

www.businessdefense.gov
www.manufacturingusa.gov
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FABRIC DISCOVERY CENTERS PROVIDE A UNIQUE FOCAL POINT FOR TECHNOLOGY DEVELOPMENT, TRANSITION, AND WORKFORCE TRAINING TO COME TO LIFE

Last month, the Department of Defense's Advanced Functional Fabrics of America (AFFOA) Manufacturing USA institute announced the opening of two Fabric Discovery Centers with plans for a third FDC in June at its headquarters in Cambridge, MA. These centers fulfill AFFOA's mission to advance smart fiber and textile technology into a supply chain of the future capable of manufacturing products for both defense and commercial markets.

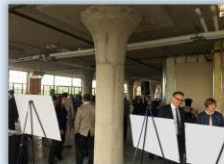
AFFOA's Fabric Discovery Centers (FDCs) enable this supply chain to develop and transition new manufacturing processes to commercial companies. These FDCs provide state-of-the-art prototyping capabilities in partnership with universities, federal labs, and commercial companies. Serving as manufacturing collaboration spaces, FDCs mature manufacturing technologies through industrial scale-up using commercial products as demonstrators. FDCs then transition AFFOA-developed technologies through commercial companies while educating future manufacturers through workforce training activities.

On May 25, 2017, AFFOA announced the Defense FDC which is a collaboration between MIT Lincoln Laboratory and the US Army Natick Soldier Research, Development and Engineering Center, in partnership with AFFOA. This center serves as a space to explore and manufacture demonstration prototypes for challenging fiber and fabric-based defense technologies. The Defense FDC will advance technologies for the warfighter that address real and immediate needs to improve combat readiness and enhance effectiveness.



A fiber draw tower at the new Defense FDC facility at MIT's Lincoln Laboratory

On May 31, 2017, AFFOA and Massachusetts Governor Charlie Baker also announced the FDC based at the University of Massachusetts in Lowell (UMass Lowell). This center opens later this year with the help of an \$11.3 million grant from the Commonwealth of Massachusetts. The UMass Lowell FDC will focus on developing, testing, and manufacturing consumer and commercial fabrics blended with flexible electronics. Dating back to 1823, Lowell, Massachusetts was the first city in the US to produce textiles using automated looms, a fact that ushered in the age of the American Industrial Revolution. This return to textiles that incorporate electronics is a true technology renaissance for the city and region.



Attendees at the UMass Lowell FDC announcement



Massachusetts Governor Charlie Baker (center) announced the UMass Lowell FDC

For the DoD, AFFOA's strategy of creating regional centers, especially the Defense FDC, to advance manufacturing product concepts and create compatible workforce development programs is completely unique in the portfolio of DoD Manufacturing Institutes and is the first of its kind.

For more information on the Defense FDC visit:

<http://www.mass.gov/hed/press-releases/administration-awards-2m-to-fiber-and-textile-center.html>

For more information on the UMass Lowell FDC visit:

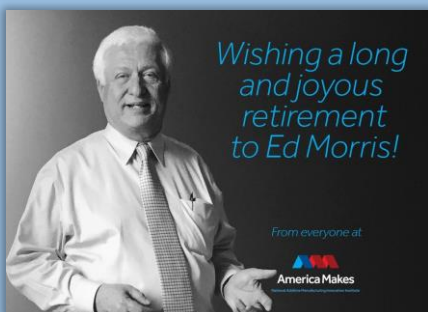
<https://www.uml.edu/News/press-releases/2017/LowellFabricDiscoveryCenterrelease.aspx>



FOND FAREWELLS

On May 31, 2017, Mr. Ed Morris retired as Executive Director of America Makes. On behalf of the Department of Defense, we thank Ed for his more than 40 years of service in helping secure the United States manufacturing industrial base. His tireless efforts as the founding manufacturing innovation institute director of America Makes has helped to lay a firm foundation for all Manufacturing USA institutes to thrive.

Mr. Rob Gorham has taken the helm as the new Executive Director of America Makes.



WHAT ARE THE 8 DEPARTMENT OF DEFENSE MANUFACTURING USA INSTITUTES?



America Makes: The National Additive Manufacturing Innovation Institute
Est. AUG 2012 (Youngstown, OH)



Digital Manufacturing and Design Innovation Institute (DMDII)
Est. FEB 2014 (Chicago, IL)



LIFT - Lightweight Innovations For Tomorrow
Est. FEB 2014 (Detroit, MI)



AIM Photonics (photonic integrated circuits)
Est. JUL 2015 (Albany, NY)



NextFlex (flexible hybrid electronics)
Est. AUG 2015 (San Jose, CA)



Advanced Functional Fabrics of America (AFFOA) - (revolutionary fibers and textiles)
Est. APR 2016 (Cambridge, MA)



BioFabUSA (advanced tissue biofabrication)
Est. DEC 2016 (Manchester, NH)



Advanced Robotics for Manufacturing (ARM)
Est. JAN 2017 (Pittsburgh, PA)

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